

Commonwealth of Kentucky
Division for Air Quality

PERMIT APPLICATION SUMMARY FORM

Completed by: Herbert Campbell

GENERAL INFORMATION:

Name:	Trimble County Generating Station
Address:	487 Corn Creek Road Bedford, KY 40006
Date application received:	12/14/2007
SIC Code/SIC description:	4911, Electric services
Source ID:	21-223-00002
Agency Interest:	4054
Activity:	APE20070006
Permit:	V-08-001

APPLICATION TYPE/PERMIT ACTIVITY:

<input type="checkbox"/> Initial issuance	<input type="checkbox"/> General permit
<input type="checkbox"/> Permit modification	<input type="checkbox"/> Conditional major
__Administrative	<input checked="" type="checkbox"/> Title V
__Minor	<input type="checkbox"/> Synthetic minor
__Significant	<input type="checkbox"/> Operating
<input checked="" type="checkbox"/> Permit renewal	<input checked="" type="checkbox"/> Construction/operating

COMPLIANCE SUMMARY:

<input type="checkbox"/> Source is out of compliance	<input type="checkbox"/> Compliance schedule included
<input type="checkbox"/> Compliance certification signed	

APPLICABLE REQUIREMENTS LIST:

<input checked="" type="checkbox"/> NSR	<input checked="" type="checkbox"/> NSPS	<input checked="" type="checkbox"/> SIP
<input checked="" type="checkbox"/> PSD	<input type="checkbox"/> NESHAPS	<input checked="" type="checkbox"/> Other (CAIR)
<input type="checkbox"/> Netted out of PSD/NSR	<input type="checkbox"/> Not major modification per 401 KAR 51:001, 1(116)(b)	

MISCELLANEOUS:

- ☒ Acid rain source
- ☐ Source subject to 112(r)
- ☐ Source applied for federally enforceable emissions cap
- ☐ Source provided terms for alternative operating scenarios
- ☒ Source subject to a MACT standard
- ☒ Source requested case-by-case 112(g) or (j) determination
- ☐ Application proposes new control technology
- ☒ Certified by responsible official
- ☒ Diagrams or drawings included
- ☐ Confidential business information (CBI) submitted in application
- ☐ Pollution Prevention Measures
- ☐ Area is non-attainment (list pollutants):

EMISSIONS SUMMARY:

Pollutant	Actual (tpy)	Source-wide Potential (tpy)
PM	558	3725.4
PM ₁₀	160.3	3725.4
SO ₂	4565.66	*13371.7
NO _x	4127.90	*11375
CO	472.14	4325.9
VOC	56.41	234.6
LEAD	0.13	1.28
HF	13.7	25.8
HCl	139.26	154
Hg	---	0.043
H ₂ SO ₄	---	116.6

*Voluntary limits taken by permittee to ensure creditable net emissions reduction [401 KAR 51:001, Section 1, (146)], on any consecutive twelve-month total of nitrogen oxide emissions shall not exceed 5556 tons per year, sulfur dioxide emissions shall not exceed 4822 tons per year.

SOURCE DESCRIPTION:

An application for the renewal of the operating Title V Permit (V-02-043R3), for the LG&E Co., Trimble County Generating Station was received on December 14, 2007. A CAIR permit application was submitted on July 3, 2007.

The source is an electric power generating station consisting of equipment at the Trimble County Generating Station that includes a 500 MW (nominal rated capacity) pulverized coal generating unit (Emissions Unit 1). Unit 1 is a pulverized coal-fired 5,333 million British thermal unit per hour (MMBtu/hr) boiler, dry bottom, tangentially fired, equipped with Selective Catalytic Reduction (SCR), electrostatic precipitator and wet spray scrubber with limestone/lime injection. There are six 160 MW (nominal rated capacity) simple cycle natural gas combustion turbines (Emissions Units 25-30), a natural draft cooling tower, coal/limestone/ash/gypsum material handling equipment, three auxiliary boilers, an emergency diesel generator, and fuel oil storage tanks. Under construction is the new 750 megawatt (MW) net nominal generating unit (Emissions Unit 31). Emissions Unit 31 is a Supercritical Pulverized Coal (SPC) 6,942 MMBtu/hour boiler, equipped with Selective Catalytic Reduction (SCR); Dry Electrostatic Precipitator (DESP); Powdered Activated Carbon (PAC) Injection; Hydrated Lime Injection; Pulse Jet Fabric Filter (PJFF); Wet Flue Gas Desulfurization (WFGD); and Wet Electrostatic Precipitator (WESP). Other units under construction are a linear mechanical draft cooling tower (LMDCT) for Emissions Unit 1, a coal blending facility, dust collectors and dust suppression equipment on material handling operations, an ash barge loading system/fly ash silos, an auxiliary steam boiler, a backup diesel generator, and an emergency diesel fire water pump engine.

Pursuant to 40 CFR Section 70.7(g) and 70.8, the United States Environmental Protection Agency

(EPA) requested that the Kentucky Department for Environmental Protection (KDPE) submit a modification to the Title V permit for Louisville Gas & Electric Co. (E.ON US LLC) Trimble County Generating Station in accordance with the Administrator's Partial Order (Order 1) responding to the petition submitted by the Sierra Club.

The facility is classified as a Title V major source of air pollution based on the potential to emit more than 100 tons per year (tpy) of particulate matter and particulate matter less than 10 microns (PM & PM₁₀), carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide (SO₂), and hazardous air pollutants (HAP). The source is subject to the permitting requirements of Title V, Title IV Phase II Acid Rain and CAIR (Clean Air Interstate Rule).

EMISSION AND OPERATING CAPS DESCRIPTION:

Pursuant to 401 KAR 52:020, Section 26, the consecutive twelve (12) month rolling total emissions in tons per year from Emission Units 31, 32, and 33 shall be less than: 1,523 for NO_x, 3,264 for SO₂ tons, and 0.55 for lead.

OPERATIONAL FLEXIBILITY:

N/A